

# Wrestling Mat Lifters

## Installation Instructions

# DRAPER

### Suspending Stationary Mat Lifter to Steel Beams

- ① Inspect the entire system for any freight damage. It is the installer's responsibility to ensure the Mat Lifter is positively and securely attached, and that attachment hardware and structures are strong enough to hold the unit.
- ② Remove covers to locate attachment items and packing list (i.e. clamps, threaded rods, sling, etc). To prepare for raising the unit under its own power place the unit upside down, with access panel facing the wall. Once raised, the unit is "flipped" so the access panel is away from the wall.
- ③ **ATTENTION: THIS IS VERY IMPORTANT.** The Mat Lifter has been wired with a pigtail key switch and tested in both directions at the factory. You must test motor operation using temporary 3-Phase electric. If the motor is not functioning properly for any reason a problem is much easier to fix on the floor as opposed to when the unit is suspended.

**Note: Use at least a 12/3 gauge wire for temporary power.**

**Draper offers an installation video that covers the standard installation process that can be viewed here:**

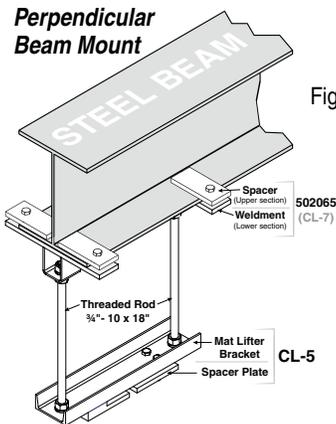
<https://www.youtube.com/watch?v=HJpp6x9rqCs>

### Ceiling Installation

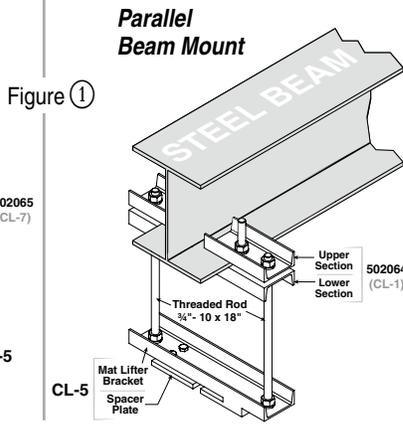
This section is for attaching Mat Lifter mounting brackets to a structural steel I-beam.

- ④ Attach the suspension beam clamps to the structural steel located above the unit's CL-5 clamps See fig. ① below.

#### Perpendicular Beam Mount



#### Parallel Beam Mount



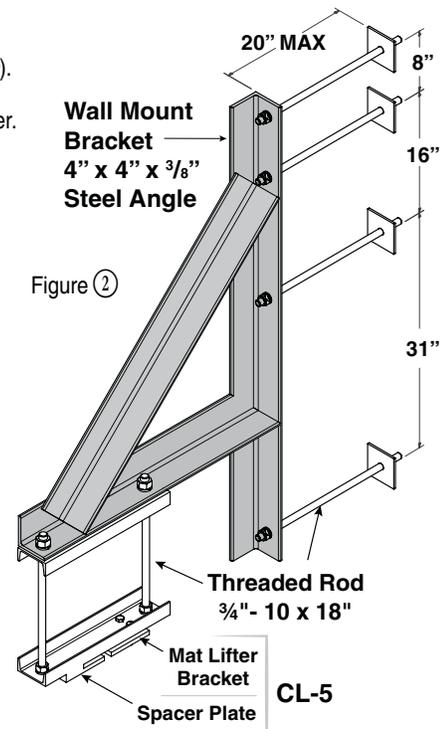
The twenty foot I-Beam frame normally has at least three support points (CL-5 clamps) located as close to the cable drums as possible. All suspension clamps require shim washers on the 1/2" bolts of the clamps "dog ear". Ideally shims are to equal the thickness of the flange of the support steel. Shims cannot exceed flange thickness, but may be slightly less.

### ⚠ Caution ⚠

- ① This equipment should not be installed, operated or maintained by any person who has not read all the contents of these instructions. Failure to read and comply with the instructions or any one of the limitations noted herein can result in serious bodily injury or death, and/or property damage.
- ② Mat lifter and track must be installed level.
- ③ Unit must be positively and securely attached.
- ④ Operate while in full view of mat hoist.
- ⑤ Make sure area below mat lifter is clear before operating.
- ⑥ Keys for switch should be retained at all times by authorized personnel. Do not leave keys unattended in key switch.
- ⑦ Mats must be rolled evenly and placed in the center of the mat hoist sling.

### Wall Installation

- ④ Install additional steel wall brackets (see fig. ②). At least 3 wall brackets are required per Mat Lifter.



Attach the suspension beam clamps to the steel wall brackets (See fig. ②).

### Hoisting Mat Lifter Into Position

- ⑤ The advantage of our Mat Lifter is that you can hoist the unit itself into position using a temporary 3-Phase power source that matches motor voltage (208V, 230V or 460V). The two outer unit clamps (CL-5) need to be in line with the outside cable drums. Occasionally, the building structure requires use of a chain hoist.
- ⑥ Loop and bolt together a 5/16" diameter x 2' long chain above the two outside cable drums, and on the two outside suspension clamps or building steel. Check the rotation of the unit. If rotation is backwards, switch any 2 main leads.

#### Note:

**Check that center cable is still taped and clears the limit switch bracket.**

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**Continued**

- ⑦ Unwrap end cables. Run out enough cable from the outside drums to attach the forked end to the  $\frac{5}{16}$ " diameter x 2' long chains bolted to trusses or clamps from step ⑥. Attach forked ends to the chains using the pin and cotter key. Turn key switch to up until unit cables are nearly taut. Straighten cable wrap on drums.
- ⑧ Begin to raise unit off floor. The weight of the unit is toward the motor side—control the unbalanced turning of the unit as it raises off the floor to prevent swinging. Allow it to stabilize before proceeding.
- ⑨ Raise Mat Lifter up to within 12" of the support steel.
- ⑩ Attach two  $\frac{5}{16}$ " diameter x 6' long safety chains on each end of the 20' I-beam. This is to secure the unit and assist in flipping the unit over to the proper position.

**NOTE:**  
**Attach the safety chain around the I-Beam only, not around the shaft. Thread under the drive shaft and around the frame. The unit will begin to turn itself over when you turn the key switch to down. Run the unit down until the weight is off the cables.**

- ⑪ Use a "come along" to rotate the unit to its proper position.
- ⑫ Once the Mat Lifter is in position underneath the support points, attach the B7 all-thread rods, and connect unit clamps (CL-5) to the suspension clamps. You may need to use the come along again to raise the unit the last few inches to get nuts and lock washers on the rods. Once you have nuts and lock washers on all rods remove cables from the chains.
- ⑬ By tightening all-thread rods the unit is raised the last few inches to complete suspension.
- ⑭ Level unit across length and width of system.
- ⑮ Tighten and double check all bolts, nuts and rods to secure unit.

**NOTE:**  
**When using only two supports it is recommended that all clamps and any support steel that you have installed be welded.**

- ⑯ Untape center cable. Take off enough wraps to equal the outside cables. Attaching a weight to the cables is recommended—the 2' chains work well for this). Make sure all cables are even and tight as they hang off the drums.
- ⑰ Run switch down until cables nearly touch floor.

## Load Bar Assembly and Attachment

- ⑱ Assemble load bar and attach cable forks. It helps to put the  $\frac{3}{4}$ " pin in the center plate before tightening all eight  $\frac{3}{8}$ " bolts (See fig. ③).

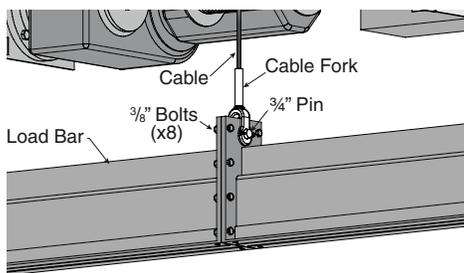
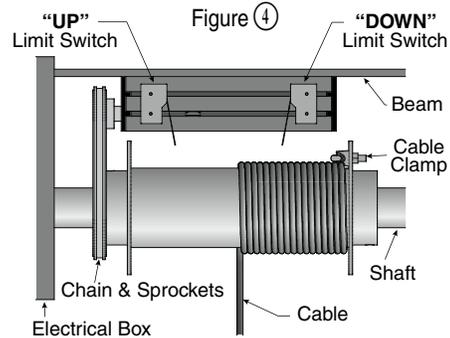


Figure ③

- ⑲ Straighten cable wraps on all drums. Run switch up until load bar is a few feet off floor. Check weight distribution on all cables, the outside two cables should be of equal tightness and the center cable slightly looser (but still taut). The two outside cables carry the majority of the weight. The center cable should never be tighter than the outside cables or it will be holding the majority of the load. If the ends of the load bar are lower than the center it illustrates the center cable is too taut.
- ⑳ Check the levelness of the load bar. If not level, adjustments will need to be made at the cable clips on the drum(s). The easiest way to do this is to lower the load bar until it just touches the floor and has a little slack in the cable. Adjust the drum(s) accordingly. When the load bar is level straighten the cables on the drums (if needed) and check the cable tautness one last time.
- ㉑ Put on the covers. To put on the center cover you will need to lower the load bar to the floor and remove the pin from the center cable--while still keeping it taut, and slip the cable through the cutout in the center cover (It helps to have assistance with this). The cover can now ride up with the load bar to attach to the unit. Put the center cover on with the 2 screws opposite the motor side, leave the other side loose so you can access the motor, starter box and limit assembly.

## Limit Switch Adjustment

- ㉒ To set the limits, first run the load bar down to approximately half way between the floor and ceiling. Put on the limit chain and keeper (stored in the starter box) and check which direction the limit guide nut travels in relation to the key switch and limit switch. Attach the appropriate limit switch by slipping the flat washer and 2 machine screws through the back side of the guide frame. Put the limit switch and boot on the outside of frame (See Fig. ④).



- ㉓ Once everything is running the correct direction set the bottom limit switch when the bottom of the load bar is 32" to 36" from the floor. The up limit should be set so the top of the load bar is 6" from the covers.

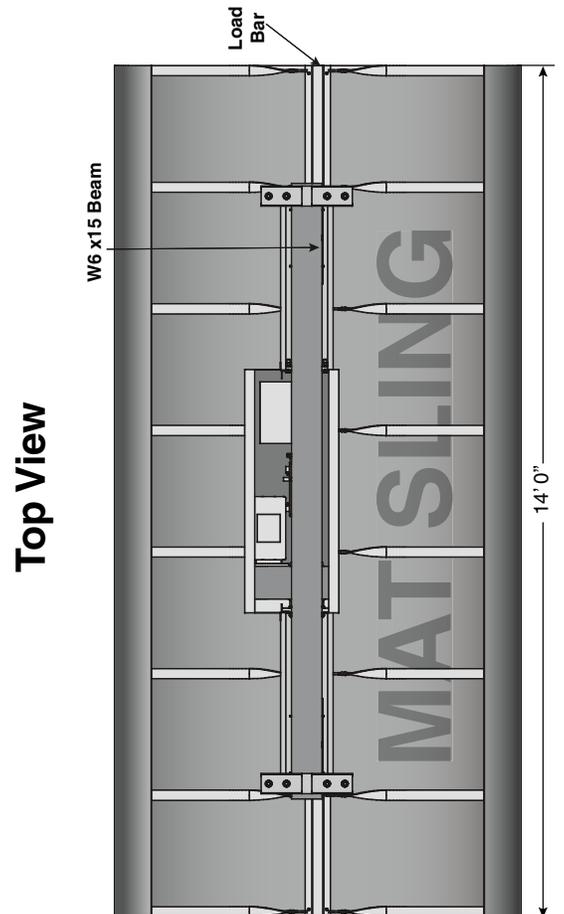
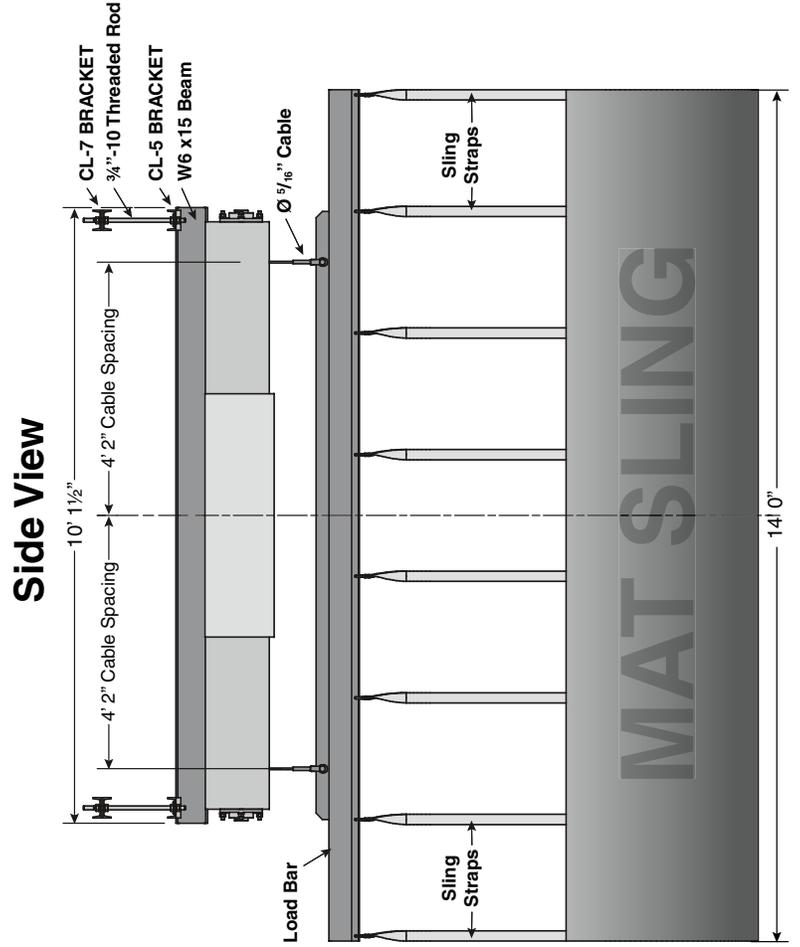
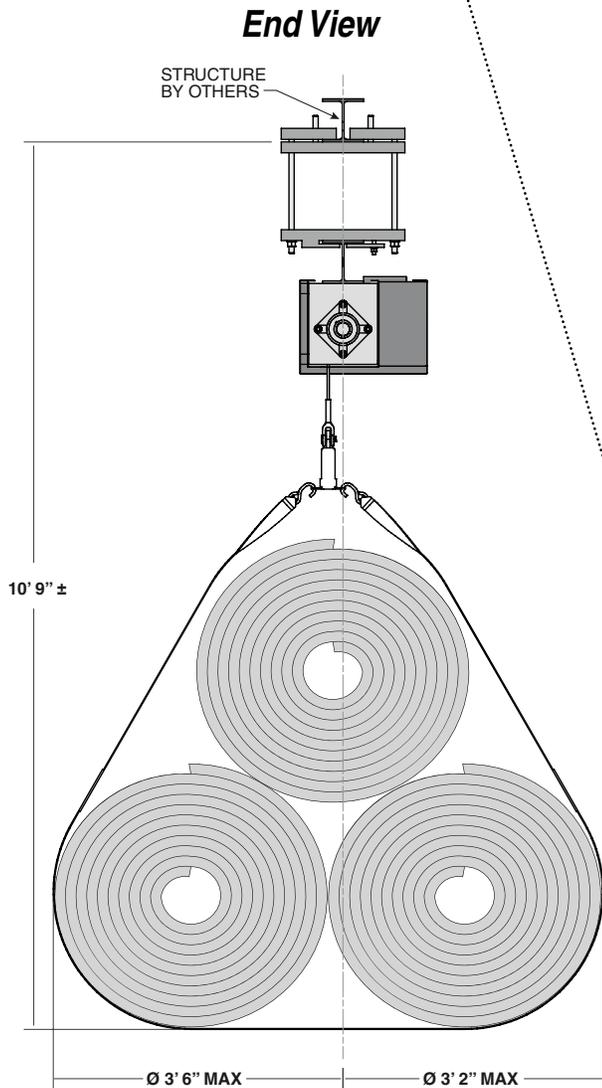
**Note: Wrapping duct tape on the 'pre-wrapped' cable on each drums in the 'DOWN' position with help ensure proper tracking.**

## Sling Attachment and Testing of Operation

- ㉔ Put on the sling and demonstrate, to the customer, the system is operating properly.
- ㉕ Before disconnecting the temporary power source leave the cables down 24" from where the up limit stops the load bar. This is just in case the electrician improperly wires the motor out of proper rotation which could damage the limit switch.
- ㉖ Disconnect the power source and put the last 4 screws into the center cover.

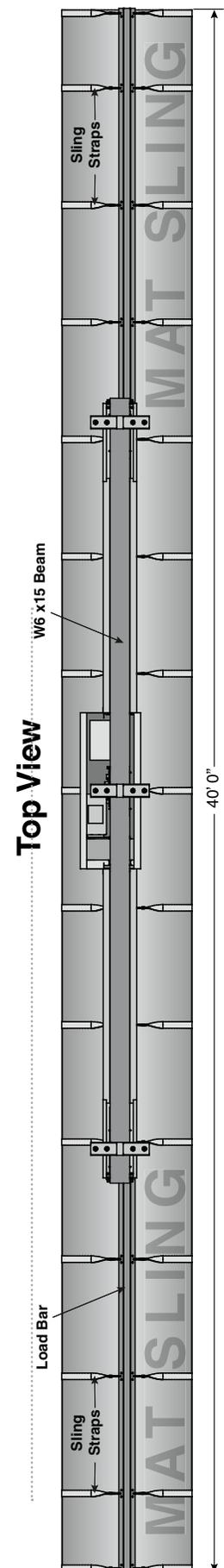
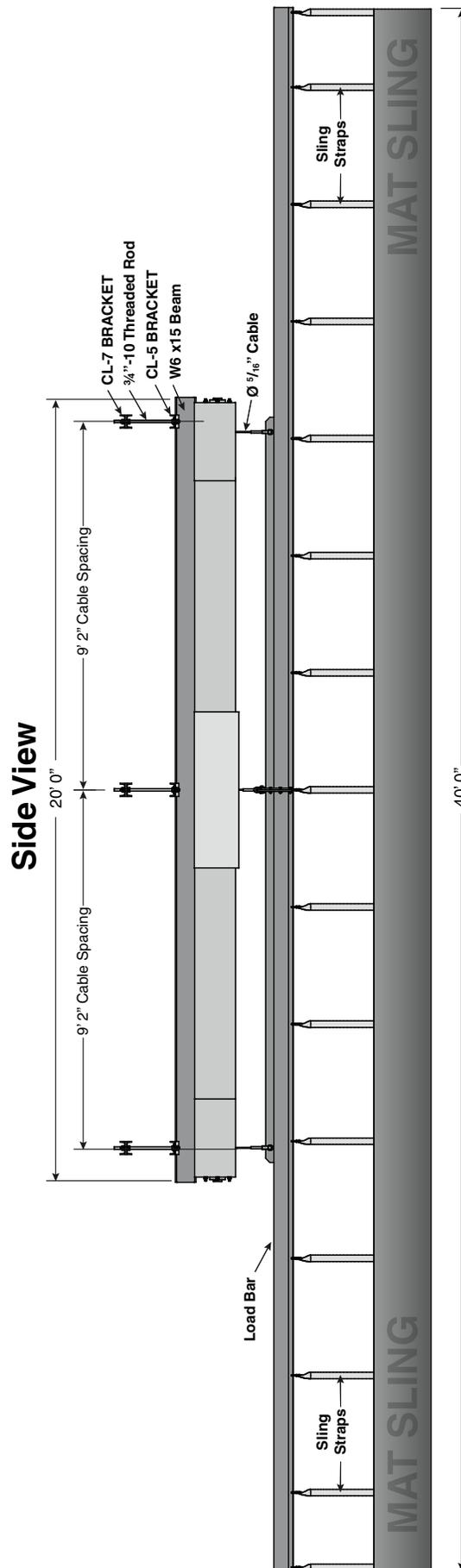
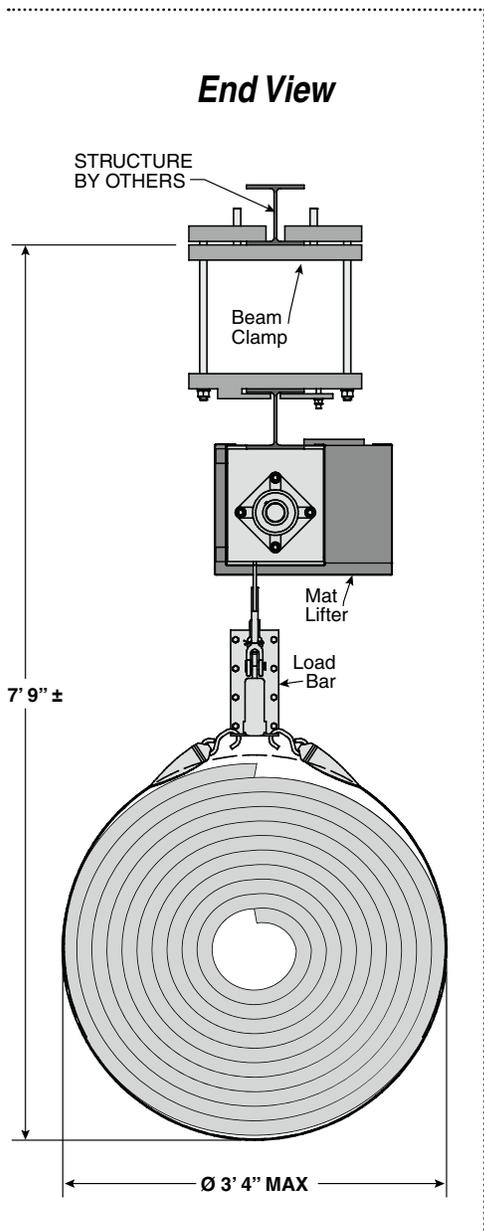
**INSTALLATION IS NOW COMPLETE.**

# Sectional Mat Lifter (#502069) - Dimensions



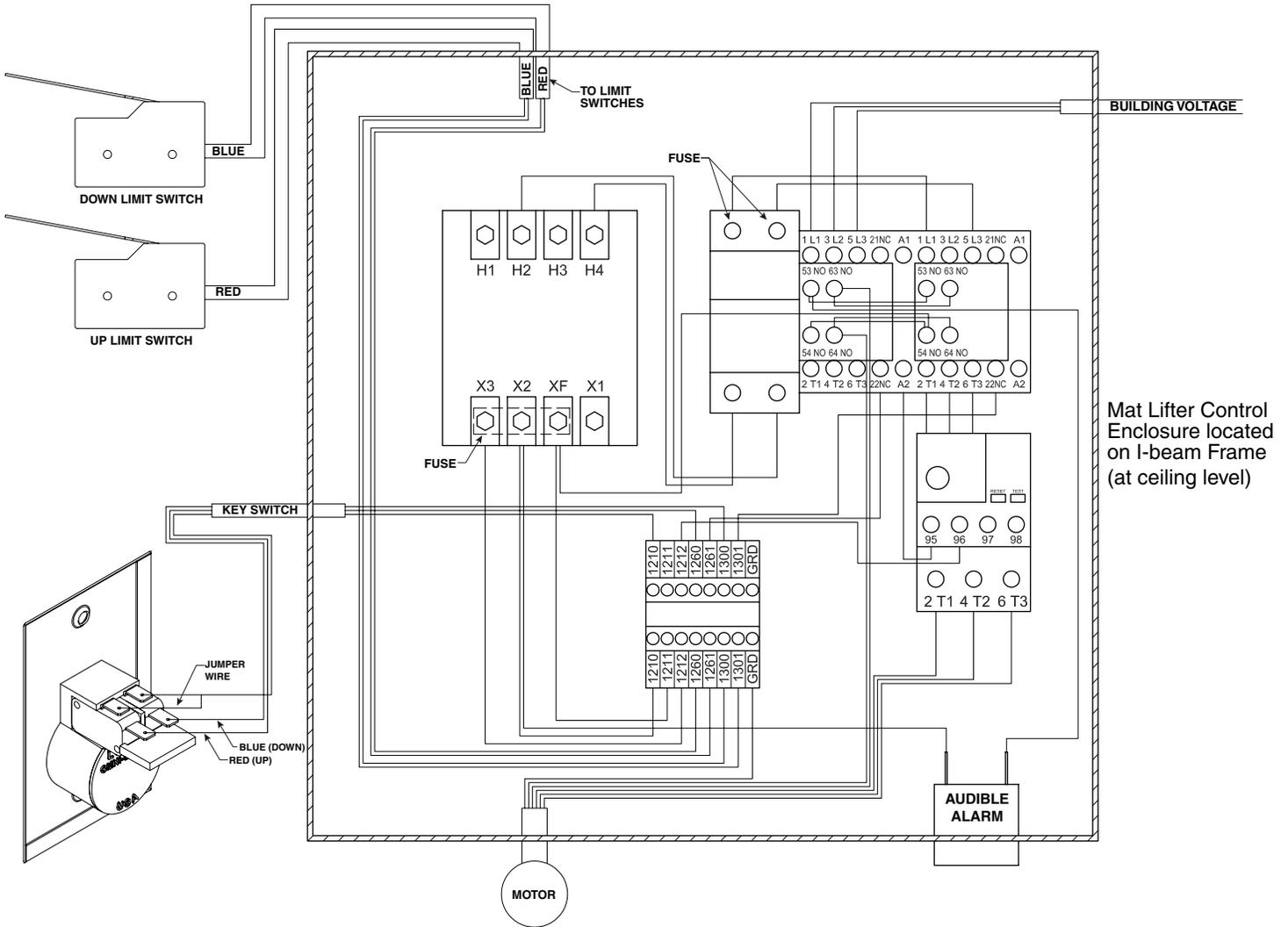
# Single Mat Lifter

(#502060) - Dimensions





## Wiring Diagram



### Wiring Notes

**Danger:** Before installing, removing, inspecting, or performing any maintenance on this unit, the mat lifter shall be de-energized.

Lock and tag in the de-energized position in accordance with ANSI Z244.1.

This unit shall be installed and wired in accordance with ANSI/NFPA 70, National Electrical Code, and all applicable Federal, State, and Local Codes.

Failure to read and comply with this and other warnings may result in serious bodily injury or death and/or property damage.